

ENGINEERING PHYSICS (ELECTRICAL ENGINEERING) - BACHELOR OF SCIENCE IN ENGINEERING PHYSICS

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change. Full-time students are usually required to take at least 15 credits per semester. This requirement could be satisfied for example by taking a one-credit supplemental instruction course.

First Year

Semester 1		Credits
ENGL 1110G	Composition I ¹	4
ENGR 120	DC Circuit Analysis	4
MATH 1511G	Calculus and Analytic Geometry I ¹	4
PHYS 2110 & 2110L	Mechanics and Experimental Mechanics ^{1,2}	4
Credits		16
Semester 2		Credits
ENGR 130	Digital Logic	4
ENGR 140	Introduction to Programming and Embedded Systems	4
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II ¹ or Calculus and Analytic Geometry II Honors	4
PHYS 2140 & 2140L	Electricity and Magnetism and Electricity & Magnetism Laboratory ^{1,2}	4
Credits		16

Second Year

Semester 1		Credits
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
ENGR 230	AC Circuit Analysis	4
MATH 2530G	Calculus III ¹	3
PHYS 2120 & 2120L	Heat, Light, and Sound and Heat, Light, and Sound Laboratory ¹	4
Credits		15
Semester 2		Credits
E E 200	Linear Algebra, Probability and Statistics Applications ¹	4
ENGL 2210G	Professional and Technical Communication Honors	3
MATH 3160	Introduction to Ordinary Differential Equations ¹	3
PHYS 315	Modern Physics ¹	3
PHYS 325	Intermediate Experimental Physics	3
Credits		16

Third Year

Semester 1		Credits
COMM 1115G	Introduction to Communication	3

PHYS 395	Intermediate Mathematical Methods of Physics ¹	3
PHYS 451	Intermediate Mechanics I ¹	3
PHYS 461	Intermediate Electricity and Magnetism I ¹	3
Area V: Humanities Course ³		3
Credits		15
Semester 2		Credits
E E 317	Semiconductor Devices and Electronics I ¹	4
Choose from one of the following:		3-4
PHYS 462	Intermediate Electricity and Magnetism II ¹	3
E E 340	Fields and Waves ¹	3
Choose from one of the following:		3
PHYS 475	Advanced Laboratory Practices for Materials ¹	3
PHYS 493	Experimental Nuclear Physics ¹	3
PHYS 471	Modern Experimental Optics ¹	3
Area IV: Social and Behavioral Science Course ³		3
Credits		13-14
Fourth Year		Credits
Semester 1		Credits
PHYS 454	Intermediate Modern Physics I ¹	3
E E 320	Signals and Systems I	3
ENGR 401	Engineering Capstone I	3
VWW: Viewing a Wider World Course ⁴		3
Technical Elective Course ⁵		3
Credits		15
Semester 2		Credits
PHYS 455	Intermediate Modern Physics II ¹	3
PHYS 480	Thermodynamics	3
ENGR 402	Engineering Capstone II ¹	3
Area VI: Creative and Fine Arts Course ³		3
VWW: Viewing a Wider World Course ⁴		3
Credits		15
Total Credits		121-122

¹ These courses may have prerequisites and/or co-requisites, and it is the students responsibility for checking and fulfilling all those requirements.

² PHYS 2110 Mechanics/PHYS 2110L Experimental Mechanics and PHYS 2140 Electricity and Magnetism/PHYS 2140L Electricity & Magnetism Laboratory will not automatically count towards the Area III: Laboratory Science requirement, an exception will be made if students elect to take these courses.

³ See the General Education (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/>) section of the catalog for a full list of courses.

⁴ See the Viewing a Wider World (<https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext>) section of the catalog for a full list of courses.

⁵ Technical electives are approved by the Engineering Physics advisors